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Icebreaker

## **U.S. Coast Guard Cutter POLAR SEA (WAGB 11)**



**Commissioned 1978**

U.S. Coast Guard (COMDT CG-47)  
Office of Environmental Management  
Washington, DC 20593-7901

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The U.S. Coast Guard (USCG) proposes to decommission the USCG Cutter *Polar Sea* (WAGB 11), an icebreaker commissioned in 1978. This undertaking is subject to provisions of Section 106 of the National Historic Preservation Act (NHPA) and 43 Code of Federal Regulations Part 800. The USCG has consulted with the Washington State Historic Preservation Office and prepared an eligibility evaluation of the USCG Cutter (USCGC) *Polar Sea* for listing in the National Register of Historic Places (NRHP). The Coast Guard has determined that *USCGC Polar Sea* does not meet the 50-year age standard or exceptional historical significance standards required for NRHP listing. Even so, this evaluation document provides useful information on the vessel and its 33 years of service.

## INTRODUCTION

The *USCGC Polar Sea* (WAGB 11) is an icebreaker commissioned on 23 February 1978. Its homeport is Seattle, Washington. The cutter's designated mission is scientific and logistical support to various United States interests in both the North and South Polar regions.

This ship is the second vessel in the *Polar*-class of U.S. Coast Guard icebreakers. The USCG designates the *Polar*-class as Heavy Icebreakers identified using the cutter type classification "WAGB." The two *Polar*-class icebreakers were constructed during the middle 1970s at the Lockheed Shipbuilding and Construction Company in Seattle, Washington. The prototype vessel of this class is the *USCGC Polar Star* (WAGB 10). It was commissioned in 1976 and is also assigned to Seattle as its homeport.

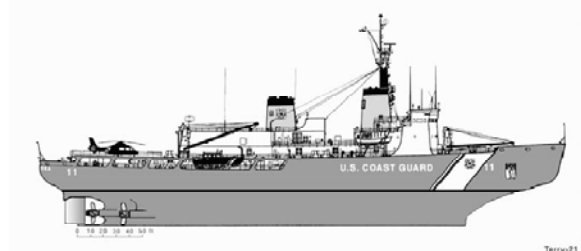
The *USCGC Polar Sea* (WAGB 11) is basically a copy of the *USCGC Polar Star* (WAGB 10).



***USCGC Polar Star* (WAGB 10) and *USCGC Polar Sea* (WAGB 11) in Antarctica**

The hull of the *Polar*-class icebreakers includes external plates and internal support structure fabricated of steel produced to have especially good low-temperature strength. Hull plates are 1.75 inches (4.5 cm) thick in the bow and stern sections, and 1.25 inches (3.2 cm) thick in the amidships section. The internal support structure provides the hull's principal strength members.

The hull's shape is an important feature. It is configured to facilitate overriding sea ice by maximizing the ship's forward motion, downward pull of gravity at the bow, and upward push of the stern's inherent buoyancy. The overhanging curved bow allows the vessel to ride forward on top of the ice which breaks due to the downward force of the ship's weight.



***Starboard profile of USCGC Polar Sea***

The *Polar*-class icebreakers are able to navigate through solid ice up to six feet thick at a constant speed of three knots (3.5 mph), and to break through up to 21 feet of ice by ramming and backing.



***USCGC Polar Sea (WAGB 11)***

The *Polar Star* and *Polar Sea* are the most powerful non-nuclear icebreakers in the world. Their propulsion plant includes three electric motors connected to the vessel's three propeller shafts. Electricity is provided by six diesel electric propulsion generators that can produce approximately 18,000 shaft horsepower, or three propulsion gas turbine generators that can produce a total of approximately 60,000 shaft horsepower. These icebreakers are equipped with reversible-pitch propellers which allow them to transition easily between forward and astern propulsion needed for backing and ramming through ice.

The *Polar*-class includes another engineering feature that aids icebreaking. There is an installed heeling system that can rock the vessel from side to side when ice closes in. This system consists of three pairs of interconnected tanks on opposite sides of the ship. Each tank has a capacity of 35,000 gallons of sea water. Pumps transfer a tank's water contents to its opposing partner tank in 50 seconds. This process produces approximately 24,000 foot-tons of torque and causes a rocking motion.

The *USCGC Polar Sea* is 399 feet (122 meters) long with a beam of 83.5 feet. Its maximum draft is 33 feet. The vessel displaces 13,227 long tons. Its cruising speed is 13 knots with a maximum speed of 17.5 knots. With tanks having a capacity of 1.4 million gallons of fuel, the vessel's operating range is 28,275 nautical miles (32,538 miles). The ship carries two HH-65C Dolphin helicopters. Its standard crew complement is 146 and an aviation detachment of nine Coast Guard air personnel. They are sustained by as much as a year's supply of food onboard. In addition, the vessel has accommodations for up to 32 scientific researchers.



***USCGC Polar Sea helicopter hangar and deck***

Amenities aboard the *Polar Sea* include four lounges for relaxation, a library with publications and motion pictures, gymnasium, ship's store, and onboard U.S. Post Office. In addition, the crew has access to satellite pay phones, amateur radio equipment, and a photo lab. The vessel's interior decoration includes bright colors and modern styling that provide comfortable surroundings in the midst of a harsh polar environment.

The *CGC Polar Sea* is painted in the standard colors used for USCG icebreakers. It has a red hull for visibility with "U.S. Coast Guard" in white and a wide forward diagonal white stripe near the bow on each side. The ship's

superstructure is white. Its two exhaust stacks are painted buff with a USCG logo on the stack nearest the stern.



**Profile of USCGC Polar Sea (WAGB 11)**

#### **USCGC Polar Sea Basic Hull Characteristics**

Length Overall	399'
Maximum Draft	33'
Beam	83' 6"
Full Load Displacement	13,227 Long Tons
Top of Mast above Waterline	138' 2"
Height of Eye from Bridge above Waterline	55' (8.7nm to horizon)
Height of Eye from Aloft Conn above Waterline	104' (12nm to horizon)
Max Sustained Open Water Speed	17.5 Knots

#### **Power Train Information**

# of Diesel Electric Engines	6
# of Gas Turbines	3
# of Shafts	3

#### **Horsepower per Shaft**

1 Diesel Engine/Shaft	3,000 hp Continuous
2 Diesel Engine/Shaft	6,000 hp Continuous
1 Gas Turbine/Shaft	20,000 hp Continuous
	25,000 hp demand boost

#### **Crew Accommodations**

Ship's crew	24 Officers
	20 Chief Petty Officers
	102 Enlisted
Aviation Detachment	9
Scientific party (max)	32

#### **Cargo Information**

Potable water	26,586 gallons
Cranes	4
General cargo	400 tons

#### **Boats**

One 24' Cutter Boat Large
One 39' Arctic Survey Boat
One 36' Landing Craft



## **HISTORICAL CONTEXT OF U.S. POLAR OPERATIONS AND ICEBREAKING**

The history of Arctic and Antarctic polar exploration and scientific research is long and distinguished. From the seventeenth century to the present, advancements in understanding these regions have been led by several European nations. United States' involvement in such endeavors began during the nineteenth century. These international efforts have expanded through time to today's sustained economic development projects and scientific investigation programs. Ships have always been an important factor in these efforts. This has led through time to advancements in design and technology for better navigation in icy regions.

The U.S. Coast Guard and its predecessor agency, the U.S. Revenue Cutter Service (USRCS), have a long history of polar operations. Highlights of this include regular patrol voyages in Alaska's arctic waters beginning in the late nineteenth century by the famous *USRC Bear* and other cutters. This included law enforcement, supply and public health visits to native villages and search and rescue efforts.



***USRC Bear* and *SS Corwin* near Nome, Alaska, in 1914**

The USRCS merged with the U.S. Lifesaving Service in 1915 to form the U.S. Coast Guard. USCG cutters continued to fulfill mission obligations in the Arctic from then onwards.

While the USRCS, and later the USCG, engaged in important roles relating to commerce and public safety, other nations as well as the U.S. sought to advance exploration and understanding of both the Arctic and Antarctic regions. U.S. government Arctic and Antarctic exploration and scientific research from the nineteenth century to the second half of the twentieth century was principally the province of the U.S. Navy. Its early expeditions included the ill-fated *Jeanette* exploration voyage in 1879 to 1881 which led to the loss of the ship and most of its Navy crew.

The search for the fabled Northwest Passage was made possible through the accomplishments of many explorers. The first successful navigation of this waterway was made in 1903 to 1906 by Roald Amundsen of Norway. In 1911, he led the first expedition to reach the South Pole.

Continuing efforts in U.S. polar exploration led to expanding knowledge and remarkable successes. Two of the most successful U.S. Navy officers leading these expeditions were Robert Peary and Richard E. Byrd. In 1909, Peary announced that his expedition had become the first to reach the North Pole. During the 1920s, Byrd made the first flights to the North and South Poles. Richard E. Byrd rose through Navy ranks to become a Rear Admiral. He led later U.S. Navy expeditions to the South Pole during the 1930s to the 1950s, including establishing permanent American bases in Antarctica.

Most of northern North America is part of Canada, which has achieved important accomplishments in polar exploration. From

1940 to 1944, the Royal Canadian Mounted Police supply vessel *St. Roch* transited the Northwest Passage from west to east, and then east to west. These were the first such voyages since Amundsen's, more than three decades before. The next vessel transit was made by the Canadian icebreaker *Labrador* in 1954.

While Canada has focused on activity in the Arctic region, U.S. efforts in polar exploration have included a sustained emphasis on the Antarctic as well. Soon after the close of World War II, Admiral Byrd led a U.S. Navy research expedition to Antarctica in 1946 to 1947 designated *Operation High Jump*. It included 12 ships (one was the aircraft carrier *USS Philippine Sea*), more than 4,700 Navy and Marine personnel, and 44 civilian observers.

The far northern part of North America is remote and desolate, but was seen by the U.S. as having great strategic importance during the early 1950s. The Cold War struggle between the Western democracies and the Soviet Union and its allies included the potential that Soviet nuclear bombers might fly across the Arctic to attack the United States. This led to establishment of the DEW (Distant Early Warning) Line of radar stations and bases in the far north. The U.S. Navy was assigned the task of supplying DEW Line installations. This vast national defense effort involved the participation of U.S. Navy icebreakers and supply vessels of the Navy's Military Sea Transportation Service (MSTS).

The need to map the arctic waters navigated by the Navy's icebreakers and MSTS vessels led to the USCG being assigned hydrographic survey work in the region. In 1955, the USCG was given the mission of identifying a deep-draft navigation route for vessels to transit the Northwest Passage eastward in the event ice in

northern Alaska prevented supply vessels from returning south through the Bering Strait.

Three USCG cutters were assigned to the Northwest Passage mission. They included *USCGC Storis*, *USCGC Spar*, and *USCGC Bramble*. *Spar* and *Bramble* left the U.S. east coast and navigated the Panama Canal in order to team up with *Storis* in Seattle. The three cutters departed Seattle in July 1957 with 305 Coast Guardsmen onboard, altogether. They reached the approximate midpoint of the Northwest Passage in early September 1957, where they were met by the Canadian icebreaker *Labrador*. After exiting the Northwest Passage later that month near Greenland, *USCGC Spar* and *USCGC Bramble* returned to their eastern U.S. homeports and *USCGC Storis* to Seattle. They were the first U.S. vessels to navigate the Northwest Passage, as well as the first to circumnavigate North America.

The goal of reaching the North Pole by ship was finally achieved in 1958 by the U.S. Navy's first nuclear submarine, *USS Nautilus* (SSN-571), which crossed below the Pole underwater. In 1959 the *USS Skate* (SSN-578), another nuclear submarine, surfaced at the North Pole. In 1962 two U.S. Navy submarines, *USS Skate* and *USS Seadragon* (SSN-584), surfaced at the North Pole together.



***USS Skate and USS Seadragon at the North Pole in 1962***

The first surface ship to reach the North Pole was the Soviet Union's icebreaker *Arktika* in August 1977. The German icebreaker *Polarstern* and Swedish icebreaker *Oden* reached the North Pole together in September 1991.

The first North American surface vessels to arrive at the North Pole were two icebreakers, the *USCGC Polar Sea* and the *Canadian Coast Guard Ship (CCGS) Louis S. St.-Laurent*, in 1994. They navigated from the Bering Straits to the North Pole and onward to Iceland, becoming the first surface vessels to cross the Arctic Ocean by way of the North Pole.

Other vessels have traveled to the North Pole since then, including the Coast Guard icebreaker *USCGC Healy* (WAGB-20) in 2002.



*USCGC Healy and crew at the North Pole  
on 6 September 2002*

In 1965 the USCG and the U.S. Navy agreed that the Coast Guard would assume jurisdiction, control over, and responsibility for maritime icebreaking. This relieved the U.S. Navy from any such obligation. Five U.S. Navy icebreaking ships were transferred to the USCG. They were assigned Coast Guard crews and repainted from battleship grey to USCG colors.

From 1966 forward, USCG icebreakers have fulfilled logistical and scientific missions in support of U.S. National Science Foundation

(NSF) polar research programs in the Arctic and Antarctic. A major aspect of this is the clearing of navigation channels for supply ships and tankers to reach the largest U.S. base in Antarctica, McMurdo Station. USCG icebreakers have also performed as scientific research platforms for NSF polar research investigations.

During the 1970s and 1980s, the Coast Guard has decommissioned all of its icebreakers built in the 1940s and 1950s. These included the seven *Wind*-class icebreakers and *USCGC Glacier*. Since 2000, the USCG has three large icebreakers in commission. Two have been normally assigned to the Antarctic (*USCGC Polar Star* and *USCGC Polar Sea*) and one to Arctic (*USCGC Healy*). On occasions when a replacement icebreaker is needed because a USCG vessel is unavailable, NSF has chartered a foreign-owned vessel.



*Tanker MV Gus W. Darnell escorted by USCGC Polar Sea and USCGC Polar Star in the Antarctic*

## **USCGC POLAR SEA AND THE UNDERSTANDING OF POLAR REGIONS**

During its three decades of involvement in polar operations, the *USCGC Polar Sea* has made a substantial number of voyages to the North and

South Polar regions. There have been 22 voyages to the Arctic and 18 to the Antarctic.

The Arctic voyages have been made largely for scientific purposes. Visiting scientists were provided accommodations (for up to 35 individuals) and use of the vessel's five internal laboratories. In addition, the *Polar Sea* has available deck space for up to seven portable laboratories. Voyages to the Antarctic have been characterized by icebreaking to open a channel through sea ice for vessels bringing supplies and fuel to the permanent U.S. base at McMurdo Sound.

There have been a number of distinctive accomplishments in which the *USCGC Polar Sea* has played a role. In 1985, it completed the first solo circumnavigation of North America by a U.S. vessel. The 1957 Coast Guard circumnavigation of North America was made by three cutters together for much of the voyage.

These include a 1994 voyage to the North Pole in company with the *CCGS Louis S. St.-Laurent*, a Canadian icebreaker. This remarkable voyage involved the first surface vessel transit of the Arctic Sea from the Bering Straits near Alaska, to the North Pole, to Norway's Svalbard Islands east of Greenland. Since both vessels transited the Panama Canal, upon returning to their respective homeports they completed circumnavigations of North America.

The *Polar Sea*'s visit to the North Pole was one of 52 surface vessel voyages to that location between 1977 and 2004. Thirteen of these voyages were for scientific purposes and 39 were tourist voyages to the North Pole and across the Arctic Ocean.

The *Polar Sea*'s voyages to Antarctica include a circumnavigation of that continent. The

periphery of Antarctica is the shortest distance for circumnavigating the Earth.



***USCGC Polar Sea (WAGB 11) in the Arctic***

The *Polar Sea*'s circumnavigation was made more than a century after the first Antarctic circumnavigation by British Captain James Cook in 1772 to 1775. Other Antarctic circumnavigations by French, British, U.S. Navy, Russian, and other vessels were accomplished during the nineteenth century and twentieth century. This shortest around the world voyage has become popularized for yachts with the establishment of the Antarctica Cup Race.

The *USCGC Polar Sea* has made an important contribution to understanding the North and South Polar regions. The cutter's accomplishments have resulted in the cutter being awarded five Coast Guard Unit Commendations, five Coast Guard Meritorious Unit Commendations, the Navy Meritorious Unit Commendation, and the Canadian Coast Guard Commissioner's Commendation.

The *Polar Sea* has served magnificently among the exclusive company of other USCG icebreakers and foreign polar exploration and research vessels. It has been a stout and reliable vessel, and met the mission requirements for which it was designed.





***USCGC Polar Sea (WAGB 11)***

In terms of requirements for listing in the National Register of Historic Places (NRHP), the *Polar Sea* does not meet the normal standard of at least 50 years in age. However, it could qualify for the NRHP if it were a historic property having the quality of exceptional significance.

In the historical context of the understanding of the North and South Polar regions, it does not appear that the *USCGC Polar Sea* is exceptionally significant. This icebreaker's important accomplishments have been equaled or exceeded by many other vessels. The *Polar Sea* and its crew have served the Coast Guard and the United States well for 33 years, and are worthy of respect and admiration. Even so, this vessel does not merit being determined exceptionally significant in American history.

### **THE ROLE OF *USCGC POLAR SEA* IN ICE CUTTING AND NORTHWEST PASSAGE NAVIGATION**

The U.S. Coast Guard became involved in icebreaking duties during the early twentieth century. This came after nearly a half century of maritime operations in northern waters by its predecessor agency, the U.S. Revenue Cutter

Service, and the Coast Guard itself following its creation in 1915.

Prior to the 1920s, USRCS and USCG cutters, and other vessels operating in icy waters included design features that made them ice resistant. This usually took the form of sheathing the bow of wooden vessels with metal, and strengthening the hull by reinforcing its interior structure.

These measures were used to prepare the vessels used by the British Royal Navy's ill-fated Franklin Expedition. Captain Franklin's two ships arrived in the Arctic seeking the Northwest Passage in 1845, but were eventually sunk by ice. All aboard escaped but subsequently died attempting to reach safety.

Explorers had been seeking the Northwest Passage, the North American Arctic sea route between the Atlantic and Pacific, since the sixteenth century. It was not until Roald Amundsen's 1903 to 1906 voyage that this goal was achieved. From the 1940s onward, the potential of national defense-related and commercial navigation through the Northwest Passage became reality with multiple successful voyages.



**The Northwest Passage (Pacific Ocean on left, Atlantic Ocean on right)**

Successful navigation of the Northwest Passage became possible from a variety of factors. These included advancements in naval architecture leading to the development of vessels specifically designed for performing the breaking of sea ice.

A major event in this process dates to 1899 when the first true icebreaker was launched, the British-built vessel *Yermak*, commissioned by the Imperial Russian Navy. The *Yermak* included a hull with 1.5-inch thick metal plates at the waterline, an overhanging bow to override and crush sea ice, a 10,000 horsepower engine, three propellers at the stern, and one propeller at the bow. Owned by Imperial Russia and subsequently the Soviet Union, it served as an operating icebreaker until 1964.



***The Russian icebreaker Yermak operated from 1899 to 1964***

From circa 1905 to 1926, several USRC and USCG cutters were modified to make them better suited to ice operations. While not true icebreakers, these vessels were capable of navigating areas with relatively light ice cover. The Coast Guard's use of the overhanging bow icebreaker hull with heavy metal plating dates to 1926. It was included in the design of the *USCGC Northland*, under construction that year, and to modify the hull of the *USCGC Kickapoo*, an ocean tug purchased by the Coast Guard. Lacking sufficiently powerful engines, the *Northland* was not suited for heavy icebreaking duty. During the early 1930s, the USCG commissioned six icebreaking cutters of the 165-foot *Escanaba*-class for use in the Great Lakes. They proved suitable for only light icebreaking.

The USCG's involvement in icebreaking was not designated a specific mission of the service until 1936. In that year, President Franklin D. Roosevelt's Executive Order Number 7521 directed the Coast Guard "to assist in keeping open navigation by means of icebreaking operations...channels and harbors within the reasonable demands of commerce."

President Roosevelt's order led to an intensive USCG effort to develop cutters with superior icebreaking capability. From 1936 to 1941, USCG Rear Admiral Edward Thiele directed this development program. It resulted in construction of the four 110-foot *Raritan*-class tugs, the Coast Guard's first true icebreakers. In 1941 the USCG obtained temporary use of the Soviet Union's icebreaker *Krassin*, built in 1917. While under USCG control, the vessel's design features were thoroughly examined.

In 1939 the U.S. Lighthouse Service (USLHS) was merged with the USCG. Prior to this, the USLHS had designed a class of 180-foot tenders with a cutaway bow and rounded bilges having an icebreaking capability for up to 20 inches of ice. These vessels became the USCG's *Cactus*-class of which 13 were built. This basis design was subsequently modified for constructing 26 additional 180-foot tenders of the *Mesquite*-class and *Iris*-class during the 1940s. A similar tender-type design was used to build the 230-foot icebreaker, *USCGC Storis*, commissioned in 1942.



**Icebreaker *USCGC Storis* (WMEC 38)**

The need for additional and more powerful icebreakers led the USCG to contract for the construction of the first four *Wind*-class icebreakers, completed in 1944. They were 269 feet long, 63.5 feet wide, and displaced 6,500 tons. Three additional *Wind*-class icebreakers were built later, one for the USCG and two for the U.S. Navy. These vessels included several elements of icebreaker design, such as seawater tanks equipped with pumps that could be used in rocking the ship side to side to free it from ice.

One heavy icebreaker was built during the 1940s for use in the Great Lakes. It was the 290-foot long *USCGC Mackinaw* (WAGB 83), commissioned in 1944. It remained in service until being decommissioned in 2006.

During World War II, the USCG was subsumed into the U.S. Navy. Coast Guard icebreakers conducted the Greenland Patrol and engaged in combat versus German units there.

In 1946, the *USCGC Northwind* (WAGB 282) participated in the U.S. Navy's expedition to Antarctica, *Operation High Jump*. The U.S. government's first *Operation Deep Freeze* in 1955 brought USCG icebreakers back to the Antarctic to clear the way for other participating vessels. The year 1955 marked the start of constant U.S. presence in the Antarctic, as well

as annual USCG icebreaking operations there that have continued to the present.



**Icebreaker *USCGC Northwind* (WAGB 282)**

During the late 1940s and 1950s, USCG icebreakers in the Arctic region conducted patrols and vessel escort, provided support for DEW Line installations in the far north, and engaged in cooperative exploration and survey missions with the Canadian Coast Guard.

Around the mid-1950s, concern arose for the potential that U.S. vessels might be caught in the far north if ice blocked them from navigating around northern Alaska to the Pacific. This led to the USCG being assigned the mission of surveying a Northwest Passage navigation route through the islands of northern Canada. The cutters *Storis*, *Bramble*, and *Spar* were assigned this task which they accomplished in 1957.

The next USCG cutter to navigate the Northwest Passage was the icebreaker *USCGC Northwind* in 1969. In company with a Canadian icebreaker, it escorted the oil tanker *SS Manhattan* during a passage from east to west. The *Northwind* then returned west to east through the Northwest Passage, becoming the first vessel to transit this waterway twice in one year. Later in 1969, the icebreaker *USCGC Staten Island* in company with a Canadian icebreaker escorted the oil tanker *SS Manhattan*

through the Northwest Passage from west to east. These voyages demonstrated the usefulness of Northwest Passage navigation for commercial shipping. Subsequent oil industry development in Alaska's North Slope region during the early 1970s led to more USCG icebreaker activity along Alaska's north coast.

The circumstances surrounding the *SS Manhattan*'s two-way transit through the Northwest Passage caused great concern in Canada relating to issues of national sovereignty and the potential for pollution in its far north. In 1970, Canada enacted the Arctic Waters Pollution Prevention Act to protect its coastal and marine resources. This law included provisions addressing Canadian jurisdiction and its authority to regulate all Arctic shipping up to 100 nautical miles from land owned by Canada. This view was not shared by the United States government. The U.S. position was that the Northwest Passage, as well as the Northeast Passage between the Atlantic and Pacific off the coast of northern Siberia, had the legal status of international straits and waters that were open to innocent passage navigation. The Canadian government position was that since the Northwest Passage ran through narrow channels between several Canadian islands, it was within that nation's internal waters.

During the 1950s and early 1960s, the U.S. Navy operated four icebreakers separately from the Coast Guard. A joint Navy-USCG study completed in 1965 concluded that it was best for the Coast Guard to assume all responsibility for icebreaking operations and for the Navy to transfer its vessels to the USCG. The Coast Guard has had exclusive mission responsibility for Federal government icebreaking operations since then.

The aging of the USCG's icebreaker fleet by the early 1970s led to planning for replacement

vessels. This resulted in the construction of the USCG two *Polar*-class icebreakers, the *USCGC Polar Star* (commissioned in 1976) and *USCGC Polar Sea* (commissioned in 1978).

Since entering USCG service, these two vessels have conducted operations in both the Arctic and Antarctic. This includes voyages through the Northwest Passage. The *USCGC Polar Sea* accomplished this in 1985 and 1990, and the *USCGC Polar Star* in 1988 and 1989. The USCG's other modern heavy icebreaker, *USCGC Healy*, navigated the Northwest Passage in 2000 and 2003.



**Bow of the *USCGC Polar Sea* in polar waters**

In 1985 the *Polar Sea* was operating off Greenland after navigating there from its Seattle homeport by way of the Panama Canal. For the return to its homeport the Coast Guard directed the vessel to navigate by way of the Northwest Passage instead of the Panama Canal, which was a greater distance.

The U.S. government notified the Canadian government of the impending voyage, but did not ask Canada for formal permission allowing it. The Canadian government decided to cooperate with the USCG and placed observers aboard the *USCGC Polar Sea*. When the cutter finally reached Seattle, it became the first U.S.



vessel to accomplish a solo circumnavigation of North America.

The *Polar Sea*'s voyage became controversial in Canada after information about it was publicized and sensationalized. Opposition politicians in the Canadian Parliament used it to criticize the party in power. Canadian native Inuit groups used it to highlight their claims for greater local control in Canada's far north. Canadian student groups called for resistance against what they regarded variously as a violation of national or native sovereignty or U.S. disrespect for its northern neighbor. The Soviet Union expressed its support for Canadian control over the Northwest Passage which it perceived as analogous to its own claims for control of navigation along the North East Passage.

Subsequent to the *Polar Sea*'s navigation of the Northwest Passage, the Canadian government established straight baselines around the country's perimeter. This reaffirmed Canada's position that the Northwest Passage was within its internal waters. That claim was accepted by the U.S. in the Agreement on Arctic Cooperation signed with Canada in 1988. This agreement included the U.S. accepting that it needed to ask Canadian permission for U.S. icebreakers to navigate through that area. Such permission was asked and granted for the *Polar Sea*'s second navigation of the Northwest Passage in October 1988 as well as passages by other USCG icebreakers.

In conclusion, it is clear that the *USCGC Polar Sea* has played an important role in Coast Guard ice cutting operations and navigation of the Northwest Passage. In this, it is similar to the role played by other USCG icebreakers. It does not appear, however, that the *Polar Sea*'s career and accomplishments stand out as exceptionally significant within the overall context of Coast

Guard ice operations or the history of Northwest Passage navigation.



***USCGC Polar Sea (WAGB 11)***

The *USCGC Polar Sea*'s primary mission has been to cut its way through sea ice in the Arctic and Antarctic regions. It was specifically designed for this and has consistently performed well in that role since its commissioning in 1978. The vessel is now 33 years in age. For it to be considered eligible for listing in the National Register of Historic Places (NRHP) when less than 50 years in age, it must meet the standard of exceptional significance. The U.S. Coast Guard has considered the vessel's character and history in light of that standard. The USCG has determined that the *Polar Sea* does not meet the requisite standard and is not eligible for listing in the NRHP.



**View looking astern of *USCGC Polar Sea***



*USCGC Polar Sea*

## BIBLIOGRAPHY

Canada Parliament Special Joint Committee on Canada's International Relations. 1986. Independence and internationalism: report of the Special Joint Committee of the Senate and of the House of Commons on Canada's International Relations. Ottawa, Canada: Canadian Publishing Centre, Supply and Services Canada.

Canney, Donald L. 1990. Icebreakers and the U.S. Coast Guard. USCG Historian's Office. Online at <[www.uscg.mil/history/webcutters/Icebreakers.asp](http://www.uscg.mil/history/webcutters/Icebreakers.asp)>.

Capelotti, P. J. 2007. Across the top of the world, the U.S. Coast Guard's 1957 Northwest Passage Expedition. Washington: U.S. Coast Guard.

National Science Foundation. 2005. Fact sheet: icebreakers in support of science, February 7, 2005. Online at <[www.nsf.gov/news/news\\_Sum.jsp?cntn\\_id=101833](http://www.nsf.gov/news/news_Sum.jsp?cntn_id=101833)>.

Nauticapedia, the. 2011. Full transits of the Northwest Passage, the North East Passage & some circumnavigations. Online at <[www.nauticapedia.ca/Articles/NWP\\_Fulltransits.phg](http://www.nauticapedia.ca/Articles/NWP_Fulltransits.phg)>

Sodhi, Devinder S. 1995. Special report 95-17: northern sea route reconnaissance study, a summary of icebreaking technology. Hanover, NH: U.S. Army Cold Regions Research and Engineering Laboratory. Online at <[www.crrel.usace.army.mil/library/specialreports/SR95\\_17.pdf](http://www.crrel.usace.army.mil/library/specialreports/SR95_17.pdf)>.

Tucker, Walter, and David Cate, eds. 1996. The 1994 Arctic Ocean Section, the first major scientific crossing of the Arctic Ocean. Hanover, NH: U.S. Army Cold Regions Research and Engineering Laboratory. Online at <[www.crrel.usace.army.mil/library/specialreports/AOS\\_SR96\\_23.pdf](http://www.crrel.usace.army.mil/library/specialreports/AOS_SR96_23.pdf)>.

U.S. Coast Guard. n.d. Arctic, Antarctic & Polar icebreaking & other operations. Online at <[www.uscg.mil/history/uscghist/icebib.pdf](http://www.uscg.mil/history/uscghist/icebib.pdf)>.

U.S. Coast Guard. n.d. Coast Guard polar, Arctic & other ice operations. Online at <[www.uscg.mil/history/iceindex.asp](http://www.uscg.mil/history/iceindex.asp)>.

U.S. Coast Guard. n.d. U. S. Coast Guard historic documents: Coast Guard ice operations. Online at <[www.uscg.mil/history/docs/IceOps.asp](http://www.uscg.mil/history/docs/IceOps.asp)>.

U.S. Coast Guard. n.d. U.S. Coast Guard icebreakers, a historical bibliography. Online at <[www.uscg.mil/history/webcutters/icebreakerbib.asp](http://www.uscg.mil/history/webcutters/icebreakerbib.asp)>.

U.S. Coast Guard. n.d. USCGC Polar Sea (WAGB 11). Online at <[www.uscg.mil/pacarea/cgcPolarSea](http://www.uscg.mil/pacarea/cgcPolarSea)>.

U.S. Coast Guard District 13. 2009. USCGC Polar Sea (WAGB 11). Online at <[www.uscg.Mil/d13/units/factsheets/uscgc\\_polar\\_sea.pdf](http://www.uscg.Mil/d13/units/factsheets/uscgc_polar_sea.pdf)>.

Wikimedia Foundation, Inc. 2011. 1985 Polar Sea controversy. Online at <[en.wikipedia.org/wiki/1985\\_Polar\\_Sea\\_controversy](http://en.wikipedia.org/wiki/1985_Polar_Sea_controversy)>.

Wikimedia Foundation, Inc. 2011. USCGC *Polar Sea* (WAGB-11). Online at <[en.wikipedia.org/wiki/USCGC\\_Polar\\_Sea\\_\(WAGB-11\)](http://en.wikipedia.org/wiki/USCGC_Polar_Sea_(WAGB-11))>.



*USCGC Polar Sea* (WAGB 11)